Looking for gold in a mine of information? Data mining can help. Like how mining for gold is digging through earth and rock for the valuable bits, data mining is sorting through large data sets to find the valuable information. The process of data mining involves using software algorithms and statistical methods to identify patterns in data to help answer business questions and predict future trends and behavior.

Data mining techniques are used in business areas like marketing, risk management, fraud detection, cybersecurity, medical diagnosis, and mathematics, and research disciplines like cybernetics and genetics. Data mining is a means to drive increased efficiency in business operations, but it can also set a business apart from the competition. In combination with predictive analytics, machine learning, and other aspects of advanced analytics, data mining can offer powerful insights.

Read more about how these processes work in tandem by clicking the link above or in the description below. Data mining is sometimes used interchangeably with data analytics, but it's really a component of the overall data science and analytics process. Data mining focuses on finding relevant information in data sets, which can then be used for analytics and predictive modeling.

There are five primary steps to data mining:

1. Identification of business issues to analyze
2. Data sources such as databases or operational systems
3. Data collection and exploration, including the sampling and profiling of data sets
4. Data preparation and transformation to filter, cleanse, and structure data for analysis
5. Modeling, in which data scientists and other users create, test, and evaluate data mining models
6. Deployment of the models for analytics use cases.

In general, data mining uncovers hidden patterns and relationships in data that can ultimately impact business across all industries. For example, using data mining, businesses can improve lead conversion rates in sales and marketing, build risk models and detect fraud in finance, and improve safety, identify quality issues, and manage supply chain operations in manufacturing.

Does your organization use data mining? What are some other benefits you've reaped from it? Share your thoughts in the comments and be sure to hit that like button.